DOCUMENT RESUME

ED 428 510 EF 005 230

TITLE	Guidelines for Instructional Technology Planning and Application.
INSTITUTION	New York State Education Dept., Albany. Office of Facilities Planning.
PUB DATE	1996-00-00
NOTE	5p.
AVAILABLE FROM	Web site: http://www.nysed.gov/fmis/facplan/
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Educational Technology; Elementary Secondary Education; Financial Support; *Guidelines; Public Schools
IDENTIFIERS	New York; *Technology Integration

ABSTRACT

Since New York State schools are engaged in fiscal and instructional planning, acquisition, wiring, training, and applications for technology use, a process is needed that can be followed through each stage of the technology application to achieve complete integration into the instructional program. The process is referred to as the Model Schools Process for staff development and instructional technology integration. This document examines planning, hardware acquisition and wiring, training, funding, and new models through teacher demonstration. (GR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

NEW YORK STATE EDUCATION DEPARTMENT

Office of Curriculum and Instruction

Guidelines for Instructional Technology Planning and Application

1996

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
L. W. Stanton
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Schools throughout New York State are engaged in fiscal and instructional planning, acquisition, wiring, training and applications for the use of technology. It is essential that a process be followed in transitioning through these diverse stages of technology application to achieve complete integration into the instructional program. This process is referred to as the Model Schools Process for staff development and instructional technology integration.

ED 428 510

Planning:

All schools are involved with the development of a five-year comprehensive educational plan. This plan should encompass shared decision-making based on Commissioner's regulation 100.11, school improvement needs based on professional development requirements and student performance data, facilities and fiscal resources. Within this plan there should be an instructional technology component reflecting this same criteria as well as learning and connectivity standards. The focus of this planning should consider the classroom and library as the instructional center. First steps for academic and grade level application should be discussed commensurate with the needs of students and respective areas of proficiency or deficiency. Schools which need to remedy reading competency at the primary (kindergarten, 1st, 2nd and 3rd grade levels) should plan to ensure access to technology, teacher training for technology skills and strategies which are associated with English and Language Arts, and new ways to assess student performance. The submission of a five-year educational plan must be more than a compendium of funded programs, but rather a document which provides information on addressing school improvement needs and the fiscal and programmatic support structure to sustain this commitment over time.

Hardware Acquisition and Wiring:

Generally, the first location for equipment is the library. Classroom configurations for equipment should be commensurate with the level of teacher training, the level of student need, program augmentation planning, connectivity and internet use. All schools should acquire computers for instruction, research and communications. Clusters of computers in the classroom, local area networks, wide area networks and full internet access should be driven by fiscal and programmatic planning which spans pre-k through grade 12. Instructional applications such as word-processing, spreadsheet, database, graphing and publishing can be accomplished using older computer models and can transition into higher level courseware, multimedia applications and internet, as machines are upgraded and fully connected. Recycling and primary level uses (k-12) are possible interim solutions pending upgrades. There should be a reference to short and long range planning with respect to hardware and software acquisition, purchase or lease agreements, which should grow to meet the instructional needs of the students and remain in an academic context. Clusters of computers should be placed in the classroom whenever possible to extend the opportunity for ongoing use throughout the instructional day, spanning all content lessons. Lab configurations, especially at the elementary level represent an add-on, not an integral part of instruction. Inclusionary practices for all student populations are possible through technology stations in the classroom.

EF 005 230

BEST COPY AVAILABLE

Training:

Professional development should reflect the respective needs of each school with a focus on delivering of content beyond traditional textbook solutions, and measuring student achievement beyond standardized tests. Teachers are also at diverse stages of readiness for integration and application. They respond to the various levels of staff development only as these trainings relate to their instructional program and academic content. Consequently, training should be customized to transition teachers through the stages of software preview, application and lesson plan integration. Many teachers have described this process which provides for a range of skills and curriculum development to take from 3-5 years. This must be an on-going commitment for all schools to also assume the responsibility to review and apply new products and strategies to the instructional program. There should be evidence through new pedagogical practice and performance criteria that all levels of training is directed toward teaching and learning. Time on task should be reduced, content should be streamlined and the professional results of learning and applying technology should pose further inquiry and generate better technology planners and consumers among staff. Students should also have an array of learning experiences and modes of demonstration which are validated by well-trained teachers. Behaviors and roles of administrators, teachers and students change in a technology rich environment. Libraries can serve as a hub for training, research, independent learning and global communications for teachers, students, and the community at large. Hiring practices should reflect new technology standards to safeguard professional development expenditures. Parents, community and substitutes teachers should all have access to the management, instructional and assessment capabilities of technology.

Funding:

The leveraging of revenue to support existing and on-going technology planning, acquisition, maintenance, training and application must be driven again by school program and improvement needs. Revenue sources which specifically target technology initiatives are available on a competitive grant basis to all schools. These revenues have increased over the years, and should be factored and combined with entitlement allocations, local assistance funds and other random subsidies such as hardware, software, building, shared service and technology aid, to consistently support and enhance program and school improvement through technology over time. For example, professional development is generally a required component for all grant and entitlement programs; however, there is a limited timeframe for setting up teacher training. Most of this work is targeted for summer, after school and weekend sessions. There is a tendency to overplan and overbudget for these activities within this limited timeframe, as some funding sources do not extend carryover options. Program and fiscal staff should convene to discuss possible funding sources for technology at the Federal, State and private industry levels and consider these subsidies and approval criteria with program and school improvement needs. Also, product delivery in the form of teacher demonstrations, student work, portfolios, and new program solutions for low performing students are appropriate by-products of these discussions. Technology aid and shared services aid should be explored for quality and life cycle outcomes. Vendor solutions are also devoid of the instructional context of learning standards and must be customized, expanded and applied to the learning environment. Cost analysis should also comprise a large degree of planning and should refine action steps at the local level. Consultants can serve as short-term, introductory resources to promote transferability of expertise to classroom teachers who have been charged with the implementation of learning standards.

Technology Applications:

How are teachers using computers, software, multimedia and internet to teach math, science, social studies, language arts, art, music, and foreign language? How are students accessing academic information, applying problem solving and higher level thinking skills through technology? After asking these questions and others, the answers will determine whether or not technology has been applied to the teaching and learning environment and whether or not we can assess student mastery through instructional technology integration. All external and in-house training for teachers should go beyond the "how to" and continue with applying this strategy or software within content areas to meet curriculum objectives, to assess student comprehension and to realize learning standards implementation. Interdisciplinary, constructivist and cooperative learning approaches should be explored in conjunction with technology applications. Performance measurements should be recorded using the State format for classroom learning experiences. New pedagogical practices should be incorporated and student work should be validated in the form of multimedia presentations, research projects and authentic learning activities. Teachers should gradually replace some lessons with technology enhanced activities. In social studies for example, exploring a common topic via the internet to gather, compare and analyze information as well as to communicate with other students or experts to approach a unit of study, provides students with the opportunity for taking charge of their instruction, assuming responsibility for learning and discovering, and selecting the preferred mode of expression. Real life experiences and real time information is directly relevant to student needs. A math lesson can introduce a graphing activity or use graphics calculators to replace traditional learning activities and to provide instant measurement of student mastery. Multimedia, telecommunications and language arts software in which reading, writing and publishing processes are included, promote and measure achievement in reading, writing, listening and speaking.

New Models Through Teacher Demonstration:

Modeling new forms of technology-enhanced teaching and learning is a preferred method of staff development among teachers in New York State. The constant component for this kind of training preserves the academic learning standards and assessment system as the driving force for technology applications. Teachers address both the management and instructional aspects of technology through the acquisition of new skills in applying the "station approach," constructivist, cooperative and independent learning techniques to their pedagogy. They abandon traditional, tacit learning practices for experiential and authentic tasks and measurement. Technology applications which span all grade levels and academic content display revitalized pedagogy which transcends the automation of old practices such as electronic worksheets and drill and practice. New York State teachers who have participated in the development of new curriculum and assessment models which employ the use of technology are encouraged to engage in peer demonstration across the State. As grants and learning experience forms are distributed and incorporated into local planning initiatives, more and more of these teacher experts can be identified. Their work will considered for inclusion in State publications and curriculum guidebooks. Measuring success for students and teachers as a direct result of technology applications will remain a large focus of the State Education Department in gathering and analyzing technology programs and expenditures.

For further information

Please contact Lynn Reuss

New York State Education Department

(518) 474-5922

L.Reuss@mail.NYSED.Gov or

Model Schools Coordinators at BOCES or Teachers Centers